## ABSTRACT

A method for forming a porous thin film is

characterized by formation of a composite thin film on a substrate, in which film a metal portion composed of a first metal component and a metal compound portion composed of a compound of a second metal component which is different from the first metal component are mixed-dispersed, and following removal of the metal portion from the composite thin film. A method for forming a porous thin film is alternatively characterized by formation of a composite thin film on a substrate, in which film a first metal portion composed of a first metal component and a second metal portion composed of a second metal component which is different from the first metal component are mixed-dispersed, and following removal of either one of the metal portions from the composite thin film.